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Takeshi Kurimoto

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKESHI KURIMOTO and AKIFUMI TAKEDOMI

Appeal 2008-2805
Application 10/690,748
Technology Center 3600

Decided¹: May 14, 2009

Before JOHN C. KERINS, STEVEN D.A. McCARTHY and MICHAEL W.
O'NEILL, *Administrative Patent Judges*.

KERINS, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

Takeshi Kurimoto and Akifumi Takedomi (Appellants) seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1-9, the only claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We REVERSE.

THE INVENTION

Appellants' claimed invention is to an airbag system having a gas generator and a gas distributor partly surrounding the gas generator, with the gas distributor having a discharge port for discharging the gas into upper and lower chambers of the airbag. The gas distributor is of a size larger than the gas generator to form a clearance for gas passage outside the generator so that the gas flows between the upper chamber and lower chamber through the clearance. A connecting line which connects an occupant side surface and an opposite side surface has first and second sections, and defines the upper chamber, the lower chamber and the gas distributor. (Appeal Br., Claims Appendix, Claim 1). Claim 1, reproduced below, is representative of the claimed subject matter:

1. An airbag system for protecting an occupant, comprising:

an airbag having an occupant side surface facing the occupant and an opposite side surface opposite to the occupant side surface when the airbag is inflated, said airbag having an interior partitioned into a plurality of chambers including at least an upper chamber and a lower chamber,

a gas generator disposed in the airbag for generating gas to inflate the airbag,

a gas distributor disposed in the airbag and partly surrounding the gas generator, said gas distributor having a discharge port for discharging the gas from the gas generator into at least the upper chamber and the lower chamber so as to expand the airbag, said gas distributor having a size greater than that of the gas generator to form a clearance for a gas passage outside the gas generator so that the gas flows between at least the upper chamber and the lower chamber through the clearance, and

a connecting line having a first section and a second section extending continuously from the first section to define at least said upper chamber, said lower chamber and said gas distributor, said connecting line connecting the occupant side surface and the opposite side surface of the airbag.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Yokoyama	US 6,231,069 B1	May 15, 2001
Acker	US 6,349,964 B1	Feb. 26, 2002
Sunabashiri	US 6,561,539 B1	May 13, 2003
Makoto ²	JP 12 085515	Mar. 28, 2000

The Examiner has rejected:

² All page citations to Makoto will refer to a translation of record in the underlying application.

(i) claims 1 and 9 under 35 U.S.C. § 102(b) as being anticipated by Makoto;

(ii) claims 2 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Makoto in view of Acker;

(iii) claims 3, 4, 6, and 7 under 35 U.S.C. § 103(a) as being unpatentable over Makoto in view of Acker and Yokoyama; and

(iv) claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Makoto in view of Acker, Yokoyama and Sunabashiri.

ISSUE

The Examiner found that the Makoto airbag device discloses all of the claim elements in claims 1 and 9, and concluded that the subject matter of claims 2-8 would have been obvious over Makoto in view of several additional references. (Answer 3-6).

Appellants urge that the Makoto airbag differs structurally from the claimed airbag system, in that (1) the Makoto airbag, in addition to having a line separating a lower chamber from an upper chamber, also has additional lines forming a rear duct 13; and (2) the Makoto structure does not have the claimed gas distributor having a size greater than that of the gas generator to form a clearance for a gas passage so that gas may flow between an upper chamber and lower chamber of the airbag system. (Appeal Br. 9-11).

The issue joined in this appeal is: have Appellants shown that either of these alleged differences between the claimed invention and the Makoto disclosure give rise to error in the Examiner's findings and conclusions of unpatentability of the claims?

FINDINGS OF FACT

The following enumerated findings of fact (FF) are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

FF 1. Makoto does not explicitly disclose a structure that includes a gas distributor of a size and configuration to allow gas to flow between the upper and lower chambers of the airbag, but instead discloses that the upper and lower chambers are divided from one another such that gas flow between the chambers does not occur. (Makoto, Fig. 1; pp. 11-12, ¶¶[0034], [0035]).

FF 2. The Acker patent describes a structure like that of Makoto, in which the chambers of the air bag are completely separated from each other by a dividing seam, and does not have a clearance so that gas may flow between the upper and lower chambers. (Acker, Fig. 2; col. 3, ll. 49-50; col. 4, ll. 7-12).

PRINCIPLES OF LAW

“Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention.” *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984). Under principles of inherency, when a reference is silent about an asserted inherent characteristic, it must be clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991).

Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. (Citations omitted.) If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

In re Oelrich, 666 F.2d 578, 581 (CCPA 1981) (quoting *Hansgird v. Kemmer*, 102 F.2d 212, 214 (CCPA 1939)).

Section 103 precludes issuance of a patent if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a); *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR Int’l*, 550 U.S. at 406-07 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”).

ANALYSIS

Claims 1 and 9

The Examiner rejects these claims, asserting that the Makoto airbag device discloses all of the claim elements. (Answer 3-4). Appellants contend that the Makoto airbag differs structurally from the claimed airbag system, in that the Makoto airbag, in addition to having a line separating a lower chamber from an upper chamber, also has additional lines forming a rear duct 13. (Appeal Br. 9-10). Appellants further contend that the Makoto structure does not have the claimed gas distributor having a size greater than that of the gas generator, to form a clearance for a gas passage, so that gas may flow between an upper chamber and lower chamber of the airbag system. (Appeal Br. 10-11). Appellants note that, in Makoto, the gas from the inflator 20 is directly supplied to the lower and upper chambers without there being a clearance for the claimed gas passage. (Appeal Br. 11).

The first of Appellants' above contentions is not persuasive of error in the rejection. As correctly alluded to by the Examiner, claim 1, by virtue of reciting the invention using the open-ended transitory term, "comprising", does not preclude an airbag system having additional lines that form additional chambers. Appellants do not contest that the portions of the Makoto patent relied upon by the Examiner do define a first and second chamber.

Appellants' second contention, on the other hand, calls into question the Examiner's finding that the Makoto patent discloses a gas distributor having the characteristics set forth in claim 1. In the actual ground of rejection of claim 1, the Examiner merely recites the language from the claim directed to the gas distributor, finding that the Makoto reference discloses those claim elements, without identifying in any detail the specific components or structure of Makoto asserted to meet those claim elements.

(Answer 4). The Examiner is slightly more precise in the “Response to Argument” section, stating that the gas distributor “consists of the part of the housing that contains the connecting line and the discharge ports” and that the gas distributor “has a size greater than the gas generator and forms a clearance (above and below the connecting line) for a gas passage ... so that gas flows between at least the upper chamber and lower chamber through the clearance.” (Answer 7).

The Examiner’s finding that the clearance in Makoto is the portion above and below the connecting line, and that this clearance provides a gas passage allowing gas to flow between the upper and lower chamber, is belied by the Makoto disclosure itself. Makoto describes the airbag structure shown in Fig. 1 thereof as follows:

[T]hus, in this embodiment, bag 10 is constituted wherein it is completely divided into mutually connected spaces comprising an upper bag chamber 12 ... and the space formed from these spaces and lower bag chamber 11 are divided by stitching.

On the other hand, the inflator 20 is also provided with [two] cylinders that supply gas to the bag 10, ... for supplying gas to upper bag chamber 12 and ... for supplying gas to the lower bag chamber 11. ... [I]nflator 20 is provided with [two] independent gas flow nozzles that can individually send gas to upper bag chamber 12 and lower bag chamber 11, respectively. In this manner, the upper bag chamber 12 and lower bag chamber 11 will receive supply of gas separately.

Makoto, pp. 11-12, ¶¶[0034], [0035].

Makoto thus not only fails to explicitly disclose a structure that meets the claim elements directed to the gas distributor, and the size and

configuration of the gas distributor to allow gas to flow between the upper and lower chambers, the portion of Makoto relied upon in finding anticipation of claim 1 expressly discloses that the upper and lower chambers are divided from one another such that gas flow between the chambers can not occur. (FF 1). The Examiner's finding that these claim elements are met by Makoto is in error, and the anticipation rejection of claims 1 and 9 will not be sustained.

Claims 2 and 5

Claims 2 and 5, which depend from claim 1 and claim 2, respectively, were rejected as being unpatentable over Makoto in view of Acker. As discussed in the preceding section, the Examiner erred in finding that Makoto discloses a gas distributor as claimed. The Acker patent is not relied upon in any manner which would cure the deficiencies of the Makoto reference in disclosing these claim elements. Further, we see no disclosure in Acker that would aid in curing the deficiencies. In fact, the Acker patent describes a structure like that of Makoto, in which the chambers of the air bag are completely separated from each other by a dividing seam, and does not have a clearance so that gas may flow between the upper and lower chambers. (FF 2). The rejection of claims 2 and 5 as being obvious in view of Makoto and Acker will thus not be sustained.

Claims 3, 4, 6 and 7

Claims 3, 4, 6 and 7 were rejected as being unpatentable over Makoto in view of Acker, and further in view of Yokoyama. These claims all depend indirectly from claim 1. As discussed in the section above that addresses the rejection of claim 1, the Examiner erred in finding that Makoto discloses a gas distributor as claimed. Neither the Acker patent nor the

Yokoyama patent is relied upon in any manner which would cure the deficiencies of the Makoto reference in disclosing these claim elements. Further, we see no disclosure in Acker or Yokoyama that would aid in curing the deficiencies. The rejection of claims 3, 4, 6, and 7 as being obvious over Makoto, Acker and Yokoyama will thus not be sustained.

Claim 8

Claim 8 was rejected as being unpatentable over Makoto in view of Acker and Yokoyama, and further in view of Sunabashiri. Claim 8 depends indirectly from claim 1. As discussed in the section above that addresses the rejection of claim 1, the Examiner erred in finding that Makoto discloses a gas distributor as claimed. None of Acker, Yokoyama, and Sunabashiri is relied upon in any manner which would cure the deficiencies of the Makoto reference in disclosing these claim elements. Further, we see no disclosure in these patents that would aid in curing the deficiencies. The rejection of claim 8 as being obvious in view of Makoto, Acker, Yokoyama and Sunabashiri will thus not be sustained.

CONCLUSION

Appellants have established that reversible error exists in the rejection of claims 1 and 9 under 35 U.S.C. § 102(b), and in the rejection of claims 2-8 under 35 U.S.C. § 103(a).

ORDER

The decision of the Examiner to reject claims 1-9 is reversed.

REVERSED

Appeal 2008-2805
Application 10/690,748

mls

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